

SUBJECT REQUIREMENT	LOCATION IN APPLICATION COMMENTS
<p><b>PART D PROCESS INFORMATION</b></p> <p>This part should include details of (1) the storage and/or treatment process(s), and (2) each hazardous waste unit to be utilized for these processes. Provide the technical design calculations, drawings and specifications for every process and unit. All design information submitted must be certified by a professional engineer registered in the Commonwealth of Kentucky.</p> <p><b>D-4 <u>Surface Impoundments</u> 401 KAR 34:200 and 38:170</b></p> <p><b>D-4a <u>Exposure Assessment</u> 401 KAR 38:070 Section 9</b></p> <p>Permit applications for surface impoundments must be accompanied by an assessment of the potential for the public to be exposed to hazardous wastes or hazardous substances released from these units. The exposure assessment at a minimum must contain the following information:</p> <ul style="list-style-type: none"> <li>Reasonably foreseeable potential releases from both normal operations and incidents at the unit, including releases associated with transportation to or from the unit;</li> <li>Potential pathways of human exposure to hazardous wastes or constituent resulting from the releases described under paragraph (1); and</li> <li>Potential magnitude and nature of the resulting from such releases.</li> </ul> <p><b>D-4b <u>Operating Requirements</u> 401 KAR 38:170 Section 2(1)</b></p> <p><b>D-4b(1) <u>List of Wastes</u></b></p> <p>The application must provide a list of all:</p> <ul style="list-style-type: none"> <li>Hazardous wastes in the impoundment</li> <li>Analytical and sampling techniques</li> <li>401 KAR 31:170 constituents</li> <li>Ignitability compatibility, reactivity and corrosivity data</li> </ul> <p><b>D-4c <u>Detailed Plan and Engineering Report</u></b></p> <p><b>D-4c(1) <u>Retrofitting Surface Impoundments</u></b></p> <p>All existing surface impoundments must be retrofitted with double liners and leachate collection systems by November 8, 1988, or stop receiving, treating or storing hazardous wastes, unless the unit:</p> <ul style="list-style-type: none"> <li>is not located within ¼ mile radius of an underground source of drinking water, and</li> </ul>	

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<ul style="list-style-type: none"> <li>• has at least one liner that complies with the current 401 KAR Chapter 34 standards (impoundments with clay liners must close as storage impoundments) and for which there is no evidence of liner leaking, and</li> <li>• is in compliance with 401 KAR Chapter 34 standards for groundwater monitoring.</li> <li>• conducts aggressive biological treatment (and downstream impoundments), and <ul style="list-style-type: none"> <li>• is subject to an NPDES permit (Section 402 CWA), and</li> <li>• is in compliance with 401 Chapter 34 standards for groundwater monitoring.</li> <li>• is part of a facility in compliance with Best Demonstrated Available Technology (BDAT) effluent guidelines, or where no BDAT guideline is applicable, and the facility is not implementing BDAT based on a Best Professional Judgement (BPJ) permit, the impoundment is part of a facility with a Section 402 Clean Water Act (CWA) permit which is achieving a significant degradation of hazardous pollutants and hazardous constituents in the untreated wastestream.</li> </ul> </li> <li>• is designed, located and operated to prevent the migration of any hazardous constituent into the groundwater or surface water at any future time and for which, after notice and comment, EPA has modified the retrofitting requirement. EPA must take into account the locational criteria for vulnerable hydrogeology when determining whether to modify the retrofitting requirement.</li> <li>• is an impoundment for which, prior to the date of enactment, EPA or an authorized state has entered into a consent decree, order, or agreement which mandates corrective action and provides protection of human health and the environment equivalent to a double-liner and leachate collection.</li> </ul> <p>D-4c(2) <u>Procedures for Obtaining an Exemption:</u></p> <p>In general, owners or operators must:</p> <ul style="list-style-type: none"> <li>• Apply by November 8, 1986.</li> <li>• Submit a Part B application and supply groundwater monitoring data and all reasonably ascertainable evidence on whether the impoundment is leaking.</li> <li>• Supply a certification by a registered professional engineer that the impoundment meets the applicable criteria for the variance.</li> </ul>	

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<p>EPA must provide for notice and comment, and process the application within 12 months of receipt.</p> <p>D-4c(3) <u>Liner System Requirements</u> 401 KAR 34:200 Section 2(3)</p> <p>Unless a waiver of the liner requirements is requested or unless the surface impoundment qualifies as an existing portion, a double liner system is required.</p> <p>If a liner is required, the application must provide detailed plans and an engineering report describing the liner system. The application must demonstrate that migration of waste into the liner for storage facilities is permitted. Migration into the liner for disposal facilities is not permitted.</p> <p>The following information is needed:</p> <ul style="list-style-type: none"> <li>• Material of construction</li> <li>• Physical strength</li> <li>• Chemical properties</li> <li>• Thickness <ul style="list-style-type: none"> <li>• synthetic</li> <li>• natural</li> </ul> </li> <li>• Foundation design</li> <li>• Size/area covered</li> <li>• Liner/waste compatibility</li> <li>• Design of leachate collection system</li> <li>• Liner installation procedures</li> <li>• Liner vendor/manufacture</li> <li>• Subsurface exploration data</li> <li>• How the system's integrity will be maintained against: <ul style="list-style-type: none"> <li>• internal and external pressure gradients including static head, settlement, compression, uplift, lateral</li> </ul> </li> </ul> <p>D-4c(4) <u>Over-topping Controls</u> 401 KAR 34:200 Section 2(6)</p> <p>The application must describe the design and operating procedures that will provide protection against impoundment over-topping.</p> <ul style="list-style-type: none"> <li>• Spillway or weirs</li> <li>• Sensors and alarms</li> <li>• Automatic or manual controls</li> <li>• Water balance</li> <li>• Discharge destination</li> <li>• Minimum freeboard bared (2 ft.)(100-yr. flood event)</li> <li>• Process flow diagram</li> </ul> <p>D-4c(5) <u>Dike Design</u> 401 KAR 34:020 Section 2(7)</p> <p>The application must demonstrate that dikes are designed, constructed, and maintained with sufficient structural integrity in such a manner that massive failure will not occur.</p>	

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<ul style="list-style-type: none"> <li>• Structural integrity analysis, assuming no functioning liner system</li> <li>• Maintenance procedures</li> <li>• Erosion protection, inside and outside</li> <li>• Stress pressure exerted by wastes</li> <li>• Control of scouring and piping without dependence on liner system</li> <li>• Engineers' certification <ul style="list-style-type: none"> <li>• qualifications of certifying engineer</li> <li>• after extended nonuse of surface impoundment (6 months)</li> <li>• after initial construction (new facility)</li> <li>• after repairs</li> </ul> </li> </ul> <p><b>D-4d <u>Special Requirements for Hazardous Wastes F020, F021 F022, F023, F026 and F027</u> 401 KAR 34:200 Section 9</b></p> <p>Hazardous waste numbers F020, F021, F022, F023, F026 and F027 (chlorinated dioxins, chlorinated dibenzofurans, and chlorinated phenols) must not be placed in surface impoundments unless the surface impoundment is operated in accordance with a management plan for these wastes that is approved by the Cabinet pursuant to 401 KAR 34:200 Section 9, and in accordance with all other applicable requirements of Chapter 34. Factors to be considered are:</p> <ul style="list-style-type: none"> <li>• The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to escape into the atmosphere,</li> <li>• The attenuative properties of underlying and surrounding soils or other materials,</li> <li>• Mobilizing properties of other materials co-disposed with these wastes,</li> <li>• Effectiveness of additional treatment, design or monitoring techniques.</li> </ul> <p>The secretary may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing these wastes in order to reduce the possibility of migration of these wastes to groundwater, surface water or air so as to protect human health and the environment.</p> <p><b>D-4e <u>Land Disposal Restrictions</u> 401 KAR 38:090 Section 2(23)</b></p> <ul style="list-style-type: none"> <li>• Documentation of compliance with 401 KAR Chapter 37</li> <li>• A copy of the notices of approval for any extensions or petitions granted under 401 KAR 37:010</li> </ul>	